

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A method for reducing unwanted noise in a communication signal, comprising:

- (A) receiving a digital input stream;
- (B) pre-emphasizing said received digital input stream producing pre-emphasized data;
- (C) storing said pre-emphasized data in a buffer;
- (D) concatenating said buffer containing said pre-emphasized data to produce a frame of data;
- (E) windowing said frame of data to provide data with a minimum of spectral leakage;
- (F) transforming said windowed data into the frequency domain as frequency domain data, storing said frequency domain data in buffer as one or more frequency bins;
- (G) calculating a power estimate for said frequency domain transformed data, wherein said calculating a power estimate further comprises

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- (1) calculating an array of power estimates corresponding to each of said frequency bins
- (2) determining if signal normalization is required;
- (3) if said signal normalization is required, calculating overall frame power; and
- (4) calculating a value of mean power per bin;
- (H) temporally smoothing said power estimate to produce time smoothed data;
- (I) transversally smoothing said time smoothed data to produce smoothed power data;
- (J) weighting frequency values based on said smoothed power data to provide weighted FFT data;
- (K) inverse transforming said weighted FFT data to provide a time domain waveform;
- (L) inverse windowing said time domain waveform to provide a de-windowed time domain sample;
- (M) de-emphasizing said de-windowed time domain sample to remove frequency emphasis effects from said time domain sample; and
- (N) generating a digital output stream of said de-emphasized data.

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Claim 2 (original): A method for reducing unwanted noise in a communication signal, as recited in claim 1, wherein said received digital input stream originates from a cellular telephone having a digital voice output.

Claim 3 (original): A method for reducing unwanted noise in a communication signal, as recited in claim 1, wherein said pre-emphasizing flattens the spectral energy of said received digital input stream.

Claim 4 (original): A method for reducing unwanted noise in a communication signal, as recited in claim 1, wherein said concatenating said buffer, further comprises combining a previous input buffer with said buffer to provide a frame overlap of approximately 50%.

Claim 5 (original): A method for reducing unwanted noise in a communication signal, as recited in claim 1, wherein said windowing employs a Hanning Window function.

Claim 6 (original): A method for reducing unwanted noise in a communication signal, as recited in claim 1, wherein said windowing employs a Rectangular Window function.

Claim 7 (original): A method for reducing unwanted noise in a communication signal, as recited in claim 1, wherein said transforming further comprises using a Fast Fourier Transform to create one or more resulting frequency domain data frequency bins.

Claim 8 (original): A method for reducing unwanted noise in a communication signal, as recited in claim 1, wherein said calculation of power estimate further comprises

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summing the squares of the real components of each frequency bin to the squares of the imaginary components of each frequency bin.

Claim 9 (original): A method for reducing unwanted noise in a communication signal, as recited in claim 1, wherein said temporally smoothing further comprises averaging said power estimate.

Claim 10 (original): A method for reducing unwanted noise in a communication signal, as recited in claim 1, wherein said temporally smoothing further comprises low pass filtering said power estimate.

Claim 11 (original): A method for reducing unwanted noise in a communication signal, as recited in claim 1, wherein said transversely smoothing further comprises averaging said time smoothed data.

Claim 12 (original): A method for reducing unwanted noise in a communication signal, as recited in claim 1, wherein said transversely smoothing further comprises low pass filtering said time smoothed data.

Claim 13 (original): A method for reducing unwanted noise in a communication signal, as recited in claim 1, wherein said weighting frequency values further comprises:

- (1) generating an array of weighting scalars; and
- (2) multiplying said array of weighting scalars by said frequency domain transformed data.

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Claim 14 (original): A method for reducing unwanted noise in a communication signal, as recited in claim 1, wherein said inverse transforming uses an Inverse Fast Fourier Transform.

Claim 15 (withdrawn): A system for reducing unwanted noise in a communication signal, comprising:

- (A) a telephone;
- (B) a noise reducing telephone adapter in electronic communication with said telephone;
- (C) a speaker in electronic communication with said noise reducing telephone adapter; and
- (D) a microphone in electronic communication with said noise reducing telephone adapter.

Claim 16 (withdrawn): A system for reducing unwanted noise in a communication signal, as recited in claim 15, wherein said noise reducing telephone adapter, further comprises:

- (1) a processor;
- (2) an analogue to digital converter electrically connected to said processor;
- (3) a digital to analogue converter electrically connected to said processor; and

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(4) a memory unit electrically connected to said processor.